

Recommendations for Improving the Prevention of Significant Deterioration Program

Prepared by: The Western States Air Resources Council

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Executive Summary

This report recommends changes to the manner in which the Prevention of Significant Deterioration provisions of the Clean Air Act (Title I, Part C) are implemented. The recommendations were prepared by the Western States Air Resources Council (WESTAR). The WESTAR Council is an association composed of representatives from 15 state air quality management agencies and four federal land management agencies on an *ex officio* basis. These recommendations result from a systematic, deliberative effort occurring over the past fourteen months, and representing hundreds of hours of volunteer effort. This effort has resulted in a consensus among a cross-section of parties interested in the future success of the PSD program.

The WESTAR Council formed the PSD Reform Workgroup in early 2004 to develop recommendations to improve the effectiveness of the PSD program. The workgroup included participants from WESTAR States as well as from the U.S. National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and the U.S. Bureau of Land Management. The workgroup also benefited from the advice and feedback provided by representatives from the U.S. Environmental Protection Agency who participated in a consultative role to the discussions.

Mission and Guiding Principles

During the course of their discussions, the PSD Reform Workgroup focused on developing recommendations to create a comprehensive program to manage and protect PSD increments and air quality related values (AQRVs) as resources. The proposed changes captured in the recommendations will result in a practical program, significantly reducing constraints in the current program that are limiting state and local agencies' abilities to address cumulative increment consumption and Class I AQRV analysis and protection.

A Brief Guide to the WESTAR PSD Reform Recommendations

In this package, WESTAR recommends 14 actions that will improve the effectiveness and efficiency of air quality management activities associated with the protection of both PSD increments and AQRVs. The recommended changes will not only improve and clarify activities associated with PSD permitting, but will also help shift the PSD program toward a proactive and effective air quality management program through pragmatic periodic review of air quality. Through these recommendations, we will make progress on several important needs critical to improving the future implementation of the PSD program. These include the need to:

- Clarify expectations around PSD program implementation roles and responsibilities;
- Clarify and articulate methods and procedures for implementing PSD program activities;
- Improve protection of AQRVs in an effective and efficient manner; and

- Improve coordination and consultation among permitting authorities, EPA, and FLMs related to PSD program implementation.

Recommendations

Recommendation 1: WESTAR recommends that permit applicants of proposed PSD major sources and major modifications with ambient impacts greater than significant impact levels should be required to perform cumulative increment consumption analyses and should follow procedures consistent with other WESTAR recommendations contained in this document. To facilitate this recommendation, WESTAR recommends that EPA promulgate the significant impact levels for Class I, II, and III areas that are contained in EPA's 1996 proposed PSD rule.

Recommendation 2: WESTAR recommends that permitting authorities conduct Periodic Review of increment consumption, and that Periodic Reviews be implemented using a "tiered" approach with the rigor and cycle of analysis tied to increment consumption conditions in the air quality planning area.

Recommendation 3: WESTAR recommends that cumulative increment analyses should be consistent within and across States with regard to the geographic scope and type of sources that are included in the PSD baseline and current emissions inventories. To effectively implement this recommendation, WESTAR recommends that EPA, with input from WESTAR, prepare guidelines that delineate both the geographic scope and the categories of sources that should be included in emissions inventories and how they should be included for use in PSD program implementation.

Recommendation 4: WESTAR recommends that EPA, with input from WESTAR, develop a menu of emissions calculation approaches and guiding principles for use when preparing emissions inventories for cumulative PSD increment analyses.

Recommendation 5: WESTAR recommends EPA take immediate steps to address the ambiguity that exists regarding the regulatory basis for conducting or not conducting an Air Quality Related Values cumulative analysis.

Recommendation 6: WESTAR recognizes the FLAG guidance as a useful tool supporting AQRV impact analyses provided that expectations around the use of threshold values are clarified acceptably.

Recommendation 7: WESTAR recommends that an explicit consultation relationship be established between States and FLMs to develop policy approaches for the use of "critical loads" information for pollutants in Class I areas.

Recommendation 8: WESTAR recommends that modeled indications of increment violations associated with PSD Major Source permit actions should be addressed in a manner that provides time to refine models to ensure accurate results, but would ultimately result in denial of the permit application in the absence of mitigation measures adequate to address impacts that could be directly attributed to the proposed source.

Recommendation 9: WESTAR recommends that EPA adopt a tiered response process to provide permitting authorities flexibility to address formal findings of increment violations identified during Periodic Review or a permitting action.

Recommendation 10: WESTAR recommends that a tiered response system should be developed to provide permitting authorities flexibility to address adverse AQRV impacts identified during AQRV impact analyses.

Recommendation 11: WESTAR recommends that proven, new technical tools and emissions data should be used when they become available for future analysis involving evaluating and planning air quality management. However, fair and equitable approaches must be sought when addressing increment exceedances associated with revised assumptions and/or techniques.

Recommendation 12: WESTAR recommends that EPA explicitly acknowledge the roles that ambient monitoring information can play in PSD program implementation.

Recommendation 13: WESTAR recommends that States and FLMs should recognize the importance of, and work to improve where necessary, communication, coordination, and public notification expectations and procedures associated with PSD permitting activities. Such expectations and procedures are crucial to an effective working relationship between the FLMs and each unique State.

Recommendation 14: In the context of single source permit and Periodic Review inter-jurisdictional emissions impacts, WESTAR encourages States to consult early and often and agree in advance on modeling protocols to enable consistency between the States in performing the analyses and to ensure equity in application of the analysis. WESTAR further recommends EPA take steps to ensure EPA Regions, in partnership with States and FLMs, operate consistently among themselves in inter-jurisdictional contexts and develop data and methods that will better enable inter-jurisdictional analysis.

Detailed Recommendations

The WESTAR Council endorses the following recommendations, prepared by the PSD Reform Workgroup, to improve the effectiveness and efficiency of the PSD program.

Recommendation 1: Permit Applicant Initiated Cumulative Increment Analyses

WESTAR recommends that permit applicants of proposed PSD major sources and major modifications with ambient impacts greater than significant impact levels should be required to perform cumulative increment consumption analyses and should follow procedures consistent with other WESTAR recommendations contained in this document. To facilitate this recommendation, WESTAR recommends that EPA promulgate the significant impact levels for Class I, II, and III areas that are contained in EPA's 1996 proposed PSD rule.

Description: Permit applicants of proposed PSD major sources and major modifications with ambient impacts greater than significant impact levels should be required to perform cumulative increment consumption analyses to assess whether the proposed permitting action would affect the area's compliance with applicable PSD increments. This cumulative increment analysis, per Recommendation 3, should consider emissions from major and minor stationary sources, area sources, and mobile sources that affect increment consumption (or expansion) within the proposed source's significant impact area. With respect to Class I areas, WESTAR requests clarification from EPA of the geographic scope of sources to include in cumulative increment analyses (see Recommendation 3). Permit applicants should coordinate with their permitting authority to determine how best to incorporate area and mobile source emissions into the cumulative increment analysis. WESTAR believes that States should have flexibility with respect to the approach that they require permit applicants to use when addressing area and mobile sources in their analyses.¹

WESTAR believes that PSD permit applicants should be allowed to utilize a "screening approach" to cumulative analyses that matches the level of analysis detail to air quality circumstances in the area. The concept of a screening approach is designed to eliminate the need for a more resource-intensive, detailed modeling approach to cumulative increment consumption analysis in situations where a simpler analysis, relying on more conservative emissions growth assumptions, is sufficient to demonstrate that the proposed source would not cause or contribute to any increment violation. For example, a screening approach could utilize allowable or permitted emissions, instead of actual emissions, for sources in the emissions inventory. It should be noted that cumulative analyses of increment consumption should be consistent with regard to the type of emissions sources that are considered in the analyses as well as methods,

¹ States rely on a variety of approaches for incorporating area and mobile source emissions into cumulative increment consumption analyses. For example, some states provide permit applicants with area and mobile source emissions inventories to include in the applicants' analyses. Other states prefer to conduct their own review of area and mobile source emissions impacts, requiring permit applicants to focus their cumulative increment analyses on major and minor stationary sources.

regardless of whether the applicant is conducting a “screening approach” or a detailed modeling analysis (see Recommendation 3 for information on the scope of sources to include in PSD emissions inventories).

WESTAR affirms that permitting authorities have the responsibility and authority to require a level of analysis that they believe is sufficient to support their decision-making regarding the proposed source. As such, WESTAR encourages PSD permit applicants to consult with permitting authorities to discuss their proposed approach to performing cumulative analyses of increment consumption.

Rationale: Workgroup participants agreed that failure to consider emissions growth information from sources other than the permit applicant’s source – including emissions changes associated with other major sources, as well as minor, area, and mobile sources since the applicable PSD baseline date – could often result in significant underestimates of increment consumption. Workgroup participants indicated that the consistent consideration of emissions growth information in cumulative increment consumption analyses will provide more accurate assessments of available increment, enabling permitting authorities to better protect air quality.

Many States are using the significant impact levels EPA included in its 1996 proposed PSD rule; however, EPA has not finalized these levels. Workgroup participants indicated that promulgating significant impact levels in regulations would provide greater certainty to permit applicants, permitting authorities, and other stakeholders, and could improve the consistency of the PSD permitting process. Proposed sources having a maximum impact on ambient concentration less than the significant impact level would not be subject to requirements to perform a cumulative increment analysis.

Recommendation 2: Periodic Review of Increment

WESTAR recommends that permitting authorities conduct Periodic Review of increment consumption, and that Periodic Reviews be implemented using a “tiered” approach with the rigor and cycle of analysis tied to increment consumption conditions in the air quality planning area.

Description: WESTAR recognizes that Periodic Review of increment consumption can be an important tool for managing air quality. Through this recommendation and others in this package, WESTAR proposes an approach to Periodic Review that addresses the factors currently constraining the feasibility of permitting authorities conducting Periodic Review of increment consumption.² The proposed approach must support a wise use of resources that enables permitting authorities to focus resources on priority problem areas. WESTAR proposes a “tiered, screening approach” to accomplish this, while recognizing that any effort to pursue Periodic Review of increment consumption will entail greater resource demands.

² WESTAR believes that the proposed approach must address the implications and process associated with responding to increment violations found during Periodic Review to provide for a realistic and effective framework in which to address the violation. In Recommendation 9, WESTAR proposes a “tiered approach” for responding to increment violations to better match responses to the nature of the specific problem, in a realistic time frame for both developing and implementing the enforceable plan.

The “tiered approach” should include consistently applied procedures for conducting cumulative increment analysis that accommodates the potential for screening using data with conservative assumptions. For example, the “tiered approach” would allow for the use of allowable source emissions data in current emissions inventories.³ Furthermore, consistent with Recommendation 12, WESTAR believes ambient monitoring data should play a role in, and influence the nature of, the Periodic Review analysis when representative data are available.

The rigor of the Periodic Review analysis should be adequate to demonstrate whether or not the increment has been violated or whether it is close to being violated. This screening approach would eliminate the need to conduct extensive, refined increment modeling analyses during Periodic Review for planning areas where little or no emissions growth has occurred since the baseline date or the last cumulative increment consumption analysis. In the event that initial modeling runs indicate that the available increment is close to being consumed or show a potential increment violation, the tiered approach procedures, mirroring the approach provided for in Recommendation 8, will provide clear steps that guide the permitting authority in refining the accuracy of the emissions inventory and modeling to determine whether or not there is an actual finding of increment violation.

The objective of this tiered approach and procedure for screening analyses and analytical refinement is to facilitate a wise use of resources. This is accomplished by avoiding the need to invest resources to seek highly accurate inventories and models in situations where less resource intensive, conservative emissions inventory or modeling assumptions are sufficient to demonstrate that increment remains available. WESTAR recommends that FLM consultation should be included as part of Periodic Review activities associated with Class I areas. For example, informal permitting authority-FLM contact may be appropriate during screening analyses, and more permitting authority-FLM collaboration would likely be appropriate in situations where more refined Periodic Review analyses involving Class I areas are being conducted.

WESTAR believes the “benchmark” cycle time for determining whether to conduct a Periodic Review of increment consumption in an area should be five years. Every five years, permitting authorities will determine the level of analysis needed, if any, to assess increment consumption for a given area. If there has been limited or no emissions growth in an area over the five-year period, no additional analysis of cumulative increment consumption would be needed for that area. For example, a rural county that has experienced decreases in overall emissions due to economic and population declines would not be subject to Periodic Review analysis.

Moreover, if a cumulative increment analysis of an area was conducted recently in conjunction with a PSD major source permitting action, that analysis could serve the function of a Periodic Review for that particular five-year period. Permitting authorities, however, are encouraged to increase the frequency for conducting Periodic Review to meet specific air quality management needs in the planning area, such as the presence of rapid emissions growth due to economic development or mobile source growth.

³ It should be noted that WESTAR believes that allowable emissions data should only be used in baseline emissions inventories in situations where actual emissions data, or other information, are unavailable.

This five-year frequency for Periodic Review of PSD increment consumption coincides with the frequency for the Regional Haze program review process. Workgroup participants indicated that in some cases it may be desirable for PSD Periodic Review efforts to leverage use of the emissions inventories developed for the Regional Haze program. This could be done by lagging the PSD Periodic Review cycle one year behind the Regional Haze program review cycle. Workgroup participants indicated that while this type of programmatic coordination may be useful, any efforts to formally link PSD Periodic Review and the Regional Haze program review process would not be acceptable due to their differing levels of analysis as well as agency workload implications.

WESTAR conditions its support for the conduct of Periodic Review on the assumption that future implementation activities will create an acceptable administrative process that guides how the results of Periodic Reviews conducted by permitting authorities will be communicated externally. This administrative process must articulate what role EPA or others may have for reviewing and responding to these results. WESTAR believes that “starting the clock” for the commencement of an initial cycle of Periodic Review is not feasible prior to the completion of an implementation framework that addresses the Periodic Review elements discussed in this package of WESTAR recommendations.

WESTAR believes that permitting authorities should not be required to submit Periodic Review information and results to EPA for explicit review and approval. WESTAR does recognize, however, that States must inform EPA in the event that analyses conducted as part of Periodic Review provide indication of a potential violation. WESTAR believes that state practice and requirements should drive how information related to Periodic Reviews is handled and shared.

Rationale: Workgroup participants affirmed the importance of periodically asking the question of whether a cumulative analysis of PSD increment consumption is needed for an area. The group agreed that Periodic Review of increment consumption can be an important tool for managing air quality and preventing significant deterioration, particularly in areas where there has not been recent permitting activity that has resulted in a cumulative analysis of increment consumption, yet where significant minor, area, or mobile source emissions growth may have occurred.

The workgroup believes it is important, however, to design the Periodic Review process in a manner that achieves a wise use of agency resources. It is important that the analyses in areas that are well below the increments not distract permitting authorities from focusing staff time and resources on “problem areas.” State representatives expressed a need for a procedure for conducting screening analyses that addresses perceptions that permitting authorities may be attempting to “model away problems or potential findings of increment violation.” In addition, state representatives indicated that the implementation of a tiered approach to responding to increment violations found during Periodic Review (see Recommendation 9) is essential to enabling permitting authorities to conduct Periodic Reviews.

While all participants acknowledged the importance of addressing states’ needs discussed above, some EPA and FLM representatives indicated that it is important to bound the flexibility around

conducting Periodic Review of increment consumption in a manner that ensures that potential “problem areas” are periodically reviewed. It was suggested that the flexibility around the tiered approach and frequency for conducting Periodic Review can be bounded by laying out the conditions under which approach and timing of the reviews can vary. Several of these proposed conditions are discussed under the above recommendation.

While participants indicated that there may be some advantages to timing the PSD Periodic Review process to leverage use of the emissions inventories developed for the Regional Haze program, most workgroup members stated that further integration of these two programs would not yield significant benefits. Participants indicated that the level of analysis required in the Regional Haze reasonable progress model is more general (e.g., annual, county level) than the more refined analysis that may be needed for some PSD increment analysis. Participants also expressed concerns over staff workload implications of conducting Regional Haze and PSD Periodic Reviews concurrently or in conjunction with each other.

Recommendation 3: Consistency of Cumulative Increment Analyses

WESTAR recommends that cumulative increment analyses should be consistent within and across States with regard to the geographic scope and type of sources that are included in the PSD baseline and current emissions inventories. To effectively implement this recommendation, WESTAR recommends that EPA, with input from WESTAR, prepare guidelines that delineate both the geographic scope and the categories of sources that should be included in emissions inventories and how they should be included for use in PSD program implementation.

Description: WESTAR provides recommendations below of source types that are appropriate for consideration in PSD analyses and those that are not. In identifying these source types, WESTAR has sought to balance the need to include comprehensive emissions information with the need for practical approaches that support a wise use of resources. In addition, WESTAR believes that there is a need to design the program in a manner that fosters sufficient stability to facilitate on-going, proactive management of air quality. For example, the inclusion of sources of emissions that fluctuate significantly over time can have a destabilizing effect on air quality management programs, potentially causing an area to appear to swing in and out of increment violation status. This volatility undermines the ability of public environmental agencies to establish viable long-term air quality management plans. For those source types discussed below as inappropriate to include in PSD increment consumption analyses, WESTAR also believes that they should not be allowed to count towards a reduction in emissions or increment expansion for PSD program purposes.

WESTAR believes that major and minor point sources, area sources, and mobile source emissions should be included in emissions inventories for PSD program analyses. Fugitive emissions associated with major and minor point sources and which are “defined and attributable” to a source should also be included as part of major and minor point source emissions, where reasonable estimation methods exist (i.e., AP-42, mass balance, etc.). Additionally, quantifiable fugitive emissions associated with anthropogenic activities should also be included. For example, fugitive emissions from stockpiles should be included.

WESTAR views portable, temporary, and intermittent sources as inappropriate to include in PSD emission inventories; however, EPA needs to develop a clear, consistent definition of these sources to enable better consistency. Natural emissions and emissions associated with the prevention of natural emissions, defined as wildfires, prescribed fires, bogs, volcanoes, and windblown dust not associated with mining or other industrial processes, should not be included in emissions inventories for increment analysis.

For various reasons, in many areas, non-road mobile sources make a significant or increasing contribution to emissions affecting air quality. As non-road emissions become a greater percentage of overall emissions, there is a need to improve the quality of non-road emissions inventories. Some WESTAR members have experienced frustration with the ambiguity around the inclusion of certain non-road mobile sources in emissions inventories and the inaccuracy of modeling projections when mobile sources are included. In that context, participants indicated that some non-road mobile sources can be viewed as either stationary sources, mobile sources, or temporary or intermittent sources, depending on operating conditions. Irrespective of these considerations, States remain challenged and need improved tools for quantifying and projecting emissions of non-road mobile sources. As EPA develops new inventory tools, such as the “Motor Vehicle Emission Simulator” (MOVES) model as a replacement for the MOBILE6 and NONROAD models, the user community should be invited to comment on the inventory system to ensure it meets their needs, particularly with respect to PSD increment inventories.

WESTAR believes that the inclusion of agricultural emissions in PSD analyses presents several challenges. First, WESTAR believes that the current availability and quality of data for some agricultural sources constrains States' ability to include them at this time. For example, EPA is currently analyzing emission rates for certain agricultural sources (e.g., confined animal feeding operations) and determining appropriate methods of quantifying emissions from these source. Second, WESTAR believes that some agricultural sources may not be appropriate for inclusion in PSD analyses after the quality of data, credibility of emission quantification methods and models, and feasibility of emissions control are evaluated. WESTAR recognizes the desirability of including selected agricultural sources in the future when the quality of data, credibility of emission quantification methods and models, and feasibility of emissions control are evaluated and EPA articulates the basis and expectations for the inclusion of these selected agricultural sources in the PSD program.

WESTAR also recommends that criteria within existing guidelines should be clarified and consolidated for determining the geographic scope of sources to include in cumulative increment analyses for Class I areas.⁴ Per EPA's guidance, source emissions that consume (or expand) increment at a Class I area should be determined by the baseline dates of the baseline area that contains the Class I area. Thus, emissions increases or decreases from sources outside the baseline area that may improve or degrade air quality at the Class I area should be evaluated by considering the minor source baseline date of the Class I baseline area, not the minor source

⁴ Guidelines for the geographic extent of source inventories required for modeling are included in EPA's draft 1990 NSR Workshop Manual, and additional guidelines are available for Class I areas.

baseline date of those source's baseline area.⁵ A quantitative evaluation may not always be warranted for all source categories; in some cases, a qualitative evaluation may satisfactorily demonstrate that a source or category can be omitted from the inventory without significant impact to the determination that PSD increment is met.

Rationale: WESTAR workgroup participants indicated that consistency with regard to the scope and type of emissions sources to include in emissions inventories is important for ensuring completeness and equity in PSD increment program implementation. In developing this recommendation, workgroup participants recognized the importance of not excessively burdening emissions inventories and PSD emissions analyses with the need to include emissions from source types that would be highly resource-intensive to include, that would introduce significant uncertainty into the analyses, that would have an estimated insignificant contribution to increment consumption, and for which emissions data are unavailable on a practical basis. Workgroup members acknowledged, however, that information availability may change over time, supporting the desire to periodically consider the addition of certain source types to the established guidelines. For example, as emissions calculation procedures and better emissions inventories become available in the future for certain source types (e.g., confined animal feeding operations), it will be desirable to add these sources to emissions inventories for PSD program implementation.

Natural emissions sources, including wildfires, bogs, volcanoes, and windblown dust, are essentially non-anthropogenic and should not be included in increment analyses because these sources are part of the background emissions that occur in an area and could be assumed to be part of the PSD baseline concentrations. Some non-anthropogenic emissions, such as wildfire and volcanoes, occur at irregular and unpredictable intervals. Others, such as bogs and windblown dust, are more predictable in emissions, but unlikely to change over time. In general, there are no appropriate control technologies for natural emissions. Including these sources in an increment analysis would be too complex and create too many uncertainties. Additionally, the analysis of sources that cannot be controlled in any reasonable manner is not a prudent use of available resources.

Emissions associated with the prevention of natural emissions, such as prescribed burning, should not be included in increment analyses because these emissions fluctuate significantly in quantity, location, and time, and would have a destabilizing effect on a PSD increment analysis. It should also be recognized that AQRV impacts from sources such as prescribed burning are being addressed through other programs, such as state smoke management and visibility protection programs and the Regional Haze Program.

Recommendation 4: Emission Estimates

WESTAR recommends that EPA, with input from WESTAR, develop a menu of emissions calculation approaches and guiding principles for use when preparing emissions inventories for cumulative PSD increment analyses.

⁵ See Memorandum "Request to Clarify Prevention of Significant Deterioration (PSD) Baseline Area and Corresponding Baseline Date for Breton National Wildlife Refuge and Wilderness Area," from Bill Harnett to Robert Hanneschlager and Winston Smith, April 5, 1999.

Description: WESTAR recognizes that there will be situations where PSD screening analyses of increment consumption indicate that more refined analyses are necessary to determine whether the increment may be violated. WESTAR believes that it is desirable to encourage consistency, predictability, and regulatory certainty with regard to approaches for preparing emissions inventories for refined PSD analyses, while recognizing that it is also important to afford permitting authorities some flexibility to ensure that analyses accommodate considerations such as data availability and accuracy with regard to actual air quality status. WESTAR believes that the overall goal of refined analysis should be to understand what is actually occurring with regard to the status of air quality in a defined area, or potential status of air quality in the case of permitting activities. WESTAR further believes that this goal is consistent with EPA's stated preference for the use of actual emissions when conducting PSD analyses.

To support these goals, WESTAR recommends that EPA develop a menu of emissions calculation approaches for use in short-term and annual PSD analyses. WESTAR further recommends that permitting authorities be allowed to select what they believe to be the most appropriate emissions calculation option from the approved menu based on their consideration of the principles articulated below. WESTAR believes, however, that any given option in the menu may not be appropriate in certain circumstances to be determined by the permitting authority on a case-by-case basis by applying the principles. Selection of emissions calculation methods should seek to:

1. maximize the accuracy of the method(s) in reflecting the actual status of air quality during each time period associated with applicable standards;
2. conform to the Clean Air Act, federal PSD rule, and other applicable laws and rules;
3. ensure consistency between emissions calculations methods used for sources in the baseline emissions inventory and the current emissions inventory;
4. ensure that selected methods are practical given the availability of and permitting authority access to emissions data;
5. support fairness and consistency in how emissions are calculated for various source types across and within States; and
6. support key air quality management objectives that States and EPA are seeking to achieve, such as encouraging sources' use of continuous emissions monitoring systems (CEMS) and discouraging sources from seeking more permitted air quality increment than they may need.

These principles are provided in recognition of fact that the analytical data available to States for the conduct of the analysis have potential to either over or under predict ambient concentrations. The principles are designed to enable States, FLMs, and EPA to work within the menus of options that follow below in a manner that minimizes over or under prediction in the context of refined analysis. For example, discussions among some WESTAR members indicated that using annual emissions averaged over operating hours to predict short-term concentrations (i.e., 3 and 24-hour average) may over or under predict ambient concentrations, with resultant implications for short-term increment protection. In light of the desire to minimize under and over prediction of ambient concentration levels, WESTAR believes that the first principle listed above should have primacy in permitting authorities' selection of an appropriate emissions calculation

approach, as it maintains an important link to the PSD program's focus on pollutant concentrations as opposed to emissions. WESTAR believes that ambient monitoring can enable permitting authorities to assess the most accurate emissions calculation approach (see the first principle above) from the menu in situations where representative monitoring data are available. See Recommendation 12 for additional discussion on the use of ambient monitoring information.

WESTAR believes that the following approaches should be considered in the menu of methods for calculating major and minor point source short-term actual emission rates for inclusion in emissions inventories used in PSD modeling analyses.

In situations where continuous emissions monitoring (CEM) data are available⁶ (with no implications of a hierarchy):

1. use short-term maximum emissions for the entire plant over a 2-year period;
2. determine maximum short-term emissions from each source at the plant;
3. determine short-term emission rates and sort them, then determine representative rates, such as an upper percentile, as the single short-term emission rate for modeling;
4. use CEM data to determine actual emissions as defined by rule and explained by EPA in the preamble to 1980 PSD rule revisions; or
5. use hour-by-hour CEM data in the model.

In situations where no CEM data are available, but where there are data that can be used to calculate short-term actual emission rates (with no implications of a hierarchy):

1. average two years actual annual emissions representing normal operations surrounding the baseline date and date of analysis for current emissions, and divide by annual operating hours;
2. calculate emissions from production data from the two years prior to the baseline date or date of analysis for current emissions (emissions calculated using valid emissions factors and methods);
3. use two years of emissions data, which may be before or after the baseline dates, which have similar facility configuration that would be representative of baseline emissions; or
4. use of allowable emission rates, including use of regulatory limits, where appropriate.⁷

Permitting authorities should also have the ability to use emissions calculations methods that are not included in the proposed menu provided that they are able to demonstrate to EPA that the approach is consistent with the law and rules as well as with the principles articulated above.

For area and mobile sources, WESTAR believes the following sources of information should be considered as options to use for calculating emissions for inclusion in PSD emissions inventories:

⁶ CEM data can be used to calibrate AP-42 estimates to calculate baseline emissions; however, AP-42 may underestimate baseline emissions. Acid Rain Program CEM data may be conservative as it cannot be adjusted downward to match the test reference method results.

⁷ It should be noted that WESTAR believes that allowable emissions data should only be used in baseline emissions inventories in situations where actual emissions data, or other information, are unavailable.

1. AP-42 emission factors, mass balance calculations, site-specific emission factors, industry emission factor, emission models; and/or
2. use of population surrogates for estimate of mobile and area sources.⁸

WESTAR recognizes that permitted (or allowable) emissions may be appropriate to use in situations where no other information about actual emissions is available.

Rationale: Several States expressed concern regarding the current lack of clarity and sometimes narrow interpretations of the definition of actual emissions used for purposes of calculating point source emissions for inclusion in emissions inventories for PSD analyses. All workgroup representatives agreed that it is desirable to bring greater clarity and consistency to approaches for conducting refined analyses, particularly related to approaches for calculating point source emissions. Participants indicated that agreement between EPA, EPA Regional Offices, FLMs, and permitting authorities on emissions calculation approaches could be highly useful in minimizing the occurrence of protracted, case-by-case negotiations as more jurisdictions find the need to conduct refined PSD analyses.

Several state workgroup representatives indicated that there are a range of interpretations that can be drawn from EPA regulations and guidance regarding appropriate approaches for calculating actual point source emissions in the context of PSD program implementation. Current PSD regulations state that, in general, actual emissions are to be used for determining baseline concentrations. Actual emissions are defined in 40 CFR 52.21(b)(21)(ii) as “the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and is representative of normal source operation.” This definition goes on to state, “Actual emissions shall be calculated using the unit’s actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.” However, the draft 1990 NSR Workshop Manual (“Puzzle Book”) states, on page C.49, that baseline emission rates are the maximum actual emissions rates (highest occurrence) for that averaging period during the previous two years of operation.

In determining baseline emission rates, the 1980 preamble {45FR at 52718, col. 3} states that, “EPA believes it is generally appropriate to presume the source will operate and emit at the allowed levels” and that, “When EPA or a State devotes the resources necessary to develop source-specific emissions limitations, EPA believes it is reasonable to presume those limitations closely reflect actual source operation. EPA, States, and sources should then be able to rely on those emissions limitations when modeling increment consumption.” In this discussion, EPA also cautions that “The presumption that federally enforceable source-specific requirements correctly reflect actual operating conditions should be rejected by EPA or a State, if reliable evidence is available which shows that actual emissions differ from the level established in the permit.” Several States noted that many point sources typically operate well below permitted levels.

⁸ See USEPA Memorandum from Eric Noble on February 22, 1992 regarding “Distribution of Report on Procedures to Estimate Nitrogen Oxides (NOX) Emission Increases from Mobile and Area Sources for Prevention of Significant Deterioration (PSD) Increment Analyses”.

The range of possible current interpretations of “acceptable” approaches led several workgroup participants to propose the development of a menu of approaches for calculating actual short-term source emission rates. The proposed menu approach also recognizes that various factors can affect the extent to which a particular actual short-term emission rate calculation method would be appropriate to use. Rather than articulating a single approach or a hierarchy of options, several workgroup representatives indicated that they believe that it would be more useful to develop an EPA-approved menu of short-term emission rate calculation methods, along with a set of principles that should govern selection among them given the circumstances.

Background discussion related to the six principles listed earlier in this recommendation is summarized below.

The first principle directly addresses WESTAR’s belief that the goal of PSD analyses should be to understand, as accurately as possible, actual changes in the status of air quality as reflected in ambient pollutant concentrations. Several state representatives indicated that various factors can affect the extent to which a particular actual emissions calculation method is appropriate to use. For example, source type, and the extent to which there are significant seasonal or temporal fluctuations in actual emissions, can influence decisions about which emissions calculation approach would be most appropriate for a particular source. Availability and quality of emissions data and assumptions that must be made where no historical data are available will also affect the chosen emissions methodology. Some States have found that ambient monitoring data, where representative data are available, can be useful in helping to determine which emissions calculation method would best reflect actual changes in air quality status.

The second principle is designed to ensure that emissions calculation options are effectively supported by the Clean Air Act, federal PSD rule, and other applicable laws and rules. Some workgroup participants expressed concern that the “menu of options” approach to selecting appropriate emissions calculations methods could open some States to challenges to or second-guessing of a permitting authority’s decision by EPA or a court. In States where permitting authorities are not allowed to be more stringent than federal law or rule requires, a menu of options could limit States’ latitude in selecting what they deem to be the most appropriate option, particularly in the event that their selected option would result in more stringent emissions control requirements than would an alternate approach on the menu. For this reason, to make the menu of options approach work, it will be necessary for States and EPA to develop a framework that grants States the flexibility to select from the menu of options without creating a situation where selected approaches are frequently subject to EPA or court challenge. One strategy would be to clarify that any given option may not be appropriate in certain circumstances to be determined by the permitting authority on a case-by-case basis by applying the principles. In addition, States could work with EPA to clarify in a rule some of the conditions and circumstances that might influence the appropriateness or inappropriateness of a particular menu option.

The third principle, addressing the need for consistency between emissions calculation methods used for baseline and current year emissions, seeks to minimize the impact of modeled emissions changes that are purely an artifact of using different calculation methods for the baseline date inventory and current date inventory. Furthermore, the 1980 preamble {45FR at 52718, col. 1}

states, “Increment consumption or expansion is directly related to baseline concentration. Any emissions not included in the baseline are counted against the increment. The complementary relationship between the concepts supports using the same approach for calculating emissions contributions to each.” In other words, participants agreed that there should be an apples-to-apples comparison.

The fourth principle recognizes that there are limitations in the feasibility of pursuing particular emissions calculations approaches in certain situations. For example, many major and minor sources do not have CEM data or short-term emissions information. In these cases, there must be flexibility to use an emissions calculation approach that is appropriate and reasonable for the resources available. The availability of short-term actual emissions data for minor and area sources that are not required to report these emissions annually may be sparse. In these cases, the States may have to develop unique methodologies to estimate short-term emissions rates that are specific to various source categories. For these minor and area sources, there is no universally appropriate methodology, so States must have flexibility in emissions inventory development.

The fifth principle addresses some workgroup participants’ stated desire to ensure that sources are addressed in an equitable manner with regard to how their emissions are calculated for inclusion in PSD emissions inventories. For example, workgroup participants indicated that significant differences can occur when emissions from one source are based on CEM data and the emissions from another source are based on allowable emissions, actual emissions as defined in 40 CFR 52.21(b)(21)(ii), or other means. While the workgroup recognized that data availability will be a primary driver of the type of emissions calculation approach used for a given emissions source, workgroup members expressed a general desire to calculate emissions similarly for comparable emissions sources within emissions inventories. Workgroup representatives indicated that such consistency is particularly important in the context of emissions inventories for PSD analyses that involve multiple jurisdictions.

The sixth principle is designed to prevent adverse side effects that could be associated with the use of a particular emissions calculation approach. Workgroup participants identified the following side effects that would be desirable to avoid through their selection of an appropriate emissions calculation approach:

- undermining efforts to ensure consistency in emissions calculation approach across source types, particularly in the context of multi-jurisdictional PSD analyses;
- undermining efforts to achieve equity and consistency with regard to how source emissions are calculated for inclusion in emissions inventories;
- discouraging sources from adopting CEM systems or performing facility-specific emissions testing;
- discouraging sources from maintaining emissions records not explicitly required by permit; and
- encouraging sources to seek more permitted increment-consuming emissions than they are likely to need.

Recommendation 5: AQRV Cumulative Analyses

WESTAR recommends EPA take immediate steps to address the ambiguity that exists regarding the regulatory basis for conducting or not conducting an Air Quality Related Values cumulative analysis.

Description: WESTAR states believe natural resources and Air Quality Related Values (AQRVs) associated with Class I Areas need to be protected and such protection can, at times, require examining emissions impacts beyond those produced by a single, major air emissions source. While all WESTAR States acknowledge the Clean Air Act (CAA) fails to expressly identify “cumulative analysis” related to AQRVs as a mandatory requirement, some WESTAR States believe Section 110(j) and Section 165(a)(3) and (a)(5) and (d) provide a complete defense to legal challenge to States that do require it. Other WESTAR States believe the statutes’ silence creates an inadequate basis for requiring such analyses. In this context, WESTAR requests EPA alleviate this disagreement by clarifying whether and how the Clean Air Act supports or does not support cumulative AQRV analysis for both single source permit review and periodic review.

As discussed above, there are varying perspectives among WESTAR states on whether or not the Clean Air Act provides a basis for conducting cumulative AQRV analysis. Irrespective of this interpretive disagreement, all WESTAR States believe the lack of promulgated regulations concerning AQRV analysis have made it difficult for air pollution control agencies and Federal Land Managers to implement programs that effectively protect AQRVs. In response, and after EPA alleviates disagreement among States by clarifying whether and how the CAA supports or does not support cumulative analysis, EPA needs to define at what levels State and Local air pollution control agencies need to conduct the AQRV analysis and the requirements, such as modeling, ambient monitoring, and/or combination of modeling and ambient monitoring for conducting the analyses. In this context, WESTAR urges the EPA Administrator to promulgate rules to clarify what constitutes an AQRV analysis and what air quality models air pollution control agencies should use for that purpose. This proposed rule should clearly articulate the acceptable approaches for conducting the AQRV analyses, including the use of ambient monitoring to ensure more accurate and reliable results. These rulemakings should further authorize regulatory agencies to take action to address adverse AQRV impacts identified during the AQRV analysis. EPA should describe example measures in the rulemaking—such as compliance plans and compliance schedules—preceded by the phrase “*including but not limited to...*”

Consistent with Recommendation 10, states will need to have a flexible, tiered response option for addressing adverse impact findings that does not require all permitting activities to cease provided a federally enforceable plan is under development to address the findings. Moreover, significant resources will need to be identified to enable many states to support the additional work required to conduct and review such analyses. In addition, as discussed in Recommendation 7, WESTAR believes the development of policy approaches to using critical load information will be beneficial.

Rationale: As discussed above, there are varying perspectives among WESTAR states on whether or not the Clean Air Act provides a basis for conducting cumulative AQRV analysis. Participants indicated that this ambiguity, along with resource constraints and the lack of an

agreed upon, workable approach for addressing any adverse findings, severely constrain states' ability to engage in these analyses. The recommendation reflects the agreement that EPA must clarify whether and how cumulative AQRV analyses are required under the CAA as a first step. Even with this clarification, however, the recommendation further reflects that additional needs must be met (e.g., resources identified and a workable approach to addressing adverse impact findings) to meet the desired goal of conducting AQRV analyses in support of protecting natural resources in Class I areas.

Workgroup participants discussed that an important way to reduce resources related to AQRV analyses during single source review permitting is to not require an analysis unless the permit applicant triggers the significant impact threshold for at least one AQRV. In this situation, the responsibility for conducting an AQRV impact analysis should reside with the permit applicant, although early consultation with the permitting authority and relevant FLMs is strongly encouraged.

Workgroup participants also discussed the need for permitting authorities to consider whether an AQRV analysis is needed for a given area at least once every five years. Participants further discussed the importance of having permitting authorities consult with FLMs when conducting periodic review.

Recommendation 6: Use of FLAG Guidance

WESTAR recognizes the FLAG guidance as a useful tool supporting AQRV impact analyses provided that expectations around the use of threshold values are clarified acceptably.

Description: WESTAR believes that the FLMs' Air Quality Related Values Workgroup (FLAG) guidance is a useful tool for bringing focus to the scope and process of AQRV impact determinations. The FLAG guidance contains procedures, techniques, and threshold values that WESTAR believes can be useful for conducting AQRV impact analyses in a consistent and resource-efficient manner.

At the same time, States have expressed concerns about how, in some instances, FLMs apply FLAG guidance thresholds. In particular, state participants stressed that it is important to not use threshold values as a "bright line," or the sole basis, for performing a more in-depth AQRV analysis or stating the project will have an adverse impact. Instead, participants agreed that threshold values in the FLAG guidance should be viewed as benchmark values that trigger a need for permitting authorities and FLMs to conduct a closer, case-by-case review of the potential AQRV impacts associated with a specific permitting action.

WESTAR offers to work with FLMs to clarify expectations around acceptable uses of threshold values in the FLAG and other related guidance, and to articulate the role of FLMs and EPA in resolving disagreements with States over the application of FLAG thresholds. In particular, WESTAR believes that FLM communications to a permitting authority indicating that a particular pollutant threshold value may be exceeded should include a rationale and description of the finding. Timely provision of this information will help to enable the permitting authority

to effectively consider the AQRV-related information in its decision-making process. For example, WESTAR believes it is important to clarify that an exceedance of Deposition Analysis Thresholds would not necessarily result in a requirement to perform a more in-depth AQRV analysis.⁹ Instead, the threshold exceedance would trigger the need for follow-up discussions between the FLM, permitting authority, and permit applicant on the potential adverse AQRV impact(s), as well as the need to conduct a more in-depth AQRV impact analysis to better understand the potential impacts. Similarly, WESTAR believes it is important to clarify that exceedances of visibility threshold values contained in the FLAG document should serve as an indicator of the need for follow-on discussions and more in-depth AQRV analysis, as opposed to a *de facto* requirement to conduct a more in-depth AQRV impact analysis.¹⁰

Rationale: All participants indicated that they have found the FLAG guidance to be a useful tool to be considered when conducting or reviewing AQRV impact analyses. In particular, participants recognized the benefits of the FLAG guidance's role in improving the consistency with which AQRV impact analyses are conducted. Many state representatives indicated that they do not necessarily want to encourage different (substitute) techniques due to concerns about staff resources that would be necessary to evaluate them. Use of the FLAG guidance can provide a consistent platform for discussions and analyses, when the benefits and limitations of the FLAG procedures and techniques are known.

Both States and FLM agencies, however, identified a broad range of ways that the FLAG guidance is used in practice. Some States and FLM agencies report using the FLAG guidance as the primary tool for guiding AQRV analysis and determining adverse impacts and others using the FLAG guidance as one of a collection of relevant guidance documents that influences their AQRV analyses and review activities but does not result in a strict adherence to the techniques or threshold criteria included in the FLAG guidance.

With regard to the threshold values contained in the FLAG and related FLM documents, workgroup participants indicated that they find their existence to be useful as they provide a clear message to permit applicants regarding air quality impacts to watch for in their analyses. In addition, participants indicated that the threshold values can proactively influence source emissions control strategies. As discussed above, state participant concerns centered over the perceived "bright line" use of threshold values by FLMs in some situations. For example, workgroup participants pointed out that reliance on an exceedance of the 10% visibility change threshold alone as the rationale for an adverse visibility impact finding is not acceptable. This interpretation is based on the requirement that determinations of adverse impacts on visibility "must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairment, and how these factors correlate with: (1) times of visitor use of the Federal class I area, and (2) the frequency and timing of natural conditions that reduce visibility."¹¹

⁹ The Deposition Analysis Thresholds were developed by the National Park Service and the U.S. Fish and Wildlife Service in conjunction with the FLAG process for both SO₂ and NO_x. The thresholds are .01 kilogram per hectare per year for SO₂ and NO_x in Eastern States and .005 kilograms per hectare per year in Western States.

¹⁰ The FLAG guidance establishes threshold values of 5% and 10% for visibility impairment.

¹¹ See FLAG guidance (pp. 15-16) and 40 CFR §51.300, et seq., §52.27.

Recommendation 7: Critical Loads

WESTAR recommends that an explicit consultation relationship be established between States and FLMs to develop policy approaches for the use of “critical loads” information for pollutants in Class I areas.

Description: WESTAR encourages FLMs to complete on-going efforts to develop “critical loads” of pollutants for specific Class I areas and regions. WESTAR believes that this information will be highly useful in supporting the decision-making process associated with AQRV impact determinations. At the same time, WESTAR recommends that FLMs, as part of efforts to develop critical load information, create an explicit collaborative process to work with States to facilitate understanding of the data and assumptions used to develop critical loads as well as to develop recommendations for how to use critical load information in making adverse AQRV impact determinations. Currently, the science upon which critical loads are based is primarily performed by researchers outside of the land management agencies and is peer-reviewed by the scientific community. The FLM agency enabling legislation and management policies guide policy determinations of actual critical load levels that are needed to protect relevant AQRVs in a given Class I area, based on the impact level findings in the peer-reviewed scientific research.

Rationale: Critical load is defined by FLMs as “the concentration of air pollution above which a specific deleterious effect may occur.”¹² As such, critical loads vary from area to area based on local circumstances and characteristics. Workgroup participants indicated that critical load information for specific Class I areas would likely be useful to supplement more “generic” threshold values (which do not vary according to local circumstances) in the context of the AQRV impact determination process.

Several workgroup participants indicated that an important opportunity exists with the development of critical load information to learn from the frustration and disagreements that have previously surfaced over the use of the FLAG guidance. Workgroup participants recognized that a collaborative process to address the policy implications and the use of critical load information would be beneficial for several reasons. First, such an effort would enhance understanding among all parties of the approaches used to derive critical load values, including the establishment and communication of a peer review process for enhancing the acceptability of resulting critical load information. Second, the process would likely increase acceptance of a consistent approach for using critical load information to protect AQRVs in the context of PSD permitting and Periodic Review. Workgroup participants also recognized that efforts to develop and use critical load information in the European Union could provide a model, or at least examples, of ways to use critical load information.

It was noted that the USDA Forest Service has initiated an evaluative process of the ways in which the data needed to compute critical and target loads data can be accomplished on the national forests. Two intensive monitoring sites have been established where the data collected

¹² See FLAG guidance (p. 129).

can be used in terrestrial and aquatic ecosystem models. This work is intended to evaluate a process by which critical and target loads can be selected.

Recommendation 8: Refined Analyses in Permit Context

WESTAR recommends that modeled indications of increment violations associated with PSD Major Source permit actions should be addressed in a manner that provides time to refine models to ensure accurate results, but would ultimately result in denial of the permit application in the absence of mitigation measures adequate to address impacts that could be directly attributed to the proposed source.

Description: States, tribes, and EPA (when serving as a permitting authority) should be given adequate time to review, verify, and potentially refine data and emissions models when initial model runs indicate an increment violation could result from a decision to approve a PSD permit application. During this refinement period, a modeled result would be treated as an “indication of violation” not a “finding of violation” and thus not triggering statutory response timeframes. At the same time, permitting authorities will remain committed to meet state and local permit review timeframe requirements. Sufficient review time is important to ensure that an increment violation does not result from emissions inventory data errors, post processor problems, or overly conservative modeling assumptions. If the State’s final refined analyses indicate that permitting the source would cause or significantly contribute to an increment violation, the source would be required to mitigate or secure offsets for the proposed source’s impact or the permit would be denied.¹³ Furthermore, modeled areas showing increment consumption close to the limit would be evaluated for increment consumption more frequently using a more refined analysis technique.

Rationale: Participants indicated that the content of this recommendation largely articulates current practice. The provision to allow for time to refine models to ensure accurate results speaks to States’ expressed need to establish procedures for reviewing and refining emissions inventories and modeling of increment consumption so as to dispel potential concerns that such refinement is designed to “model away” potential determinations of increment violation.

This recommendation differs from Recommendation 9 in its focus on situations where the cause of the potential violation is the PSD permit applicant. Recommendation 9 addresses the situation where the potential increment violation is found during a routine periodic review by the State or is uncovered during an increment evaluation performed as part of a PSD permit application, but the source seeking the PSD permit does not cause or significantly contribute to that potential violation.

¹³ EPA’s promulgation of significant impact levels (see Recommendation 1) will help to clarify the definition of “cause and contribute.” In addition, a source causing or contributing to a Class I increment violation can still obtain a PSD permit if the FLM certifies that the source would not have any adverse impacts on air quality related values at the Class I area, and if other conditions are also met. Regardless of an FLM certifying no adverse impacts, the State would be still be required to correct any Class I increment violation.

Recommendation 9: Response to Increment Violation Findings During Periodic Review

WESTAR recommends that EPA adopt a tiered response process to provide permitting authorities flexibility to address formal findings of increment violations identified during Periodic Review or a permitting action.

Description: WESTAR believes that States should have available to them a range of practical options for addressing a formal finding¹⁴ that there exists an increment violation in a Class I or Class II area. This range of practical options should include a “tiered response process” for correcting the violation. This recommendation addresses the situation where the State has been unable to rectify or correct a potential violation through its normal administrative processes prior to the official finding of violation by EPA. The tiered response process would be addressed through a federally enforceable commitment or plan to correct the PSD increment violation.

In making this recommendation, WESTAR recognizes that variations in the cause and magnitude of increment violations have important implications for the type and time frame of responses that are practical to resolve the increment violations. For example, violations caused primarily by mobile source emissions growth would typically require a different response strategy on a different time horizon than would a violation caused primarily by point source emissions growth. WESTAR believes the response plan should consider the following factors that can affect response strategies and timelines:

1. the severity of the violation;
2. the complexity of reducing emissions from the primary contributing sources;
3. the geographic scope and size of the affected area; and
4. the extent to which the violation affects Class I areas.

WESTAR believes that it will be beneficial to develop a tiered response process that can be used to guide the scope and timing of needed response, recognizing that some flexibility will likely be needed to adapt the response strategy and timeline to the specific circumstances and context of the violation. This tiered response approach to findings of violations from Periodic Review would also apply to situations where a PSD permit application results in a finding of increment violation that is caused by sources other than the permit applicant.

WESTAR affirms that formal findings of increment violations should be addressed through an enforceable agreement or amendment to the state implementation plan (SIP). Prior to finalizing the analyses that establish an increment violation, however, States should be allowed and encouraged to work with stationary sources that may be causing or contributing to a potential increment violation to seek emissions reductions that could address the potential violation.

WESTAR believes that once a formal finding of an increment violation has been made, the State should have the option of addressing the violation through either a memorandum of understanding (MOU)-type process or through a SIP call. For increment violations affecting

¹⁴ A formal finding of increment violation is one pursuant to 40 CFR 51.166(a)(3), specifically where EPA has notified the state of the increment violation (or pursuant to 40 CFR 51.166(a)(4) where a Periodic Review has indicated there is a violation).

Class I areas, MOU development would include consultation with FLMs. WESTAR believes that these options are consistent with flexibility clearly granted under the Clean Air Act, and commits to working with EPA to devise a realistic time frame for response plan preparation and submission.

WESTAR believes that the MOU-type option, or an alternate mechanism, should create incentives (e.g., reduced transaction costs, EPA involvement, or procedural requirements; the opportunity to negotiate a quicker timeframe for resolving the violation) that would make this approach of benefit to the State or affected sources. WESTAR believes, however, that it is important for an MOU-type approach or alternative mechanism to include provisions for public participation or notice, consistent with established state air program public participation practices. An MOU-type approach could be particularly useful in cases where there is general agreement that the modeling is adequate, where the sources that are causing or contributing to the violation have been identified correctly, and where the affected parties agree with the approach to be taken to address the violation. This MOU-type approach should provide significant incentives to address modeled violations.

WESTAR believes that permitting of additional emissions in the area of the increment violation should be allowed to continue if such actions are approved in conjunction with the development of an overall, enforceable plan to address the violation. To support this position, WESTAR first recommends that permitting should be allowed to continue for sources whose impacts fall below established increment significant impact levels (see Recommendation 1), and all other PSD requirements are met. Second, WESTAR recommends that permitting of sources with ambient impacts above the established significant impact levels should be allowed to proceed if the proposed source is able to fully offset its impact on the receptor(s) where the violation(s) have been recorded. WESTAR believes the same concepts should apply to permitting of new and modified stationary sources during the time period between when a State is first apprised of a potential increment violation and the time that it has been confirmed, but a formal finding has not been issued.

Rationale: State representatives indicated that current requirements and uncertainty over the implications of finding increment violations creates significant disincentives for permitting authorities to take steps that might result in a formal finding of increment violation. In the extreme case, potential fears of an increment violation resulting in a *de facto* moratorium on economic growth reinforce the perception of a “cliff” with severe consequences and limited flexibility for response. State representatives further indicated that a proactive air quality management program designed to prevent significant deterioration of “clean” airsheds (i.e., air planning areas in compliance with NAAQS) should include the flexibility for States and permitting authorities to match their response to the nature of the specific problem, in a realistic time frame for both developing and implementing the enforceable plan. For example, increment violations caused primarily by mobile source growth may be difficult to address in a short time period. There is a desire to seek enough flexibility in the required response to enable permitting authorities to focus their efforts on air quality management and to minimize the likelihood of becoming unnecessarily embroiled in contentious local political conflicts over land use and economic development.

Other workgroup participants generally recognized these concerns expressed by state representatives, although they indicated that it remains important that practical, enforceable response plans be developed and implemented in a timely manner to address the air quality problems indicated by the violation. FLMs expressed concerns over the potential for increased flexibility in States' response to increment violations resulting in greater deterioration in air quality in Class I areas. The workgroup identified the need for follow-up discussions to clarify the extent to which flexible responses are appropriate in Class I areas.

Furthermore, workgroup review of the Clean Air Act indicates that the Act clearly provides for flexibility in both the process and time frame for developing a response plan, as negotiated between a State and EPA. There was general agreement among participants that the 60 day time frame for revising a State Implementation Plan (SIP) to fix an increment violation in current EPA regulations is unrealistic. WESTAR believes that a longer time frame would be more appropriate, and that this is consistent with the intent of the Clean Air Act in its provision of an alternative time frame prescribed by EPA after consultation with the State.

Recommendation 10: Addressing Adverse AQRV Impacts

WESTAR recommends that a tiered response system should be developed to provide permitting authorities flexibility to address adverse AQRV impacts identified during AQRV impact analyses.

Description: WESTAR believes that States should have available a range of practical options which afford flexibility in a State's response to a finding of an adverse AQRV impact, provided that the end result is a federally enforceable commitment or plan to mitigate the adverse impact. WESTAR believes that to be successful, the implementation of this recommendation must be part of an implementation package that also addresses the conditions that are necessary to support permitting authorities in conducting AQRV analyses and Periodic Review for AQRVs.

Rationale: The rationale for Recommendation 10 is similar to that for recommendation 9. The workgroup discussed, however, that the range of flexibility for response options may need to be constrained more than those available to address increment violations in Class II areas due to the sensitive nature of conditions in many Class I areas.

Recommendation 11: Increment Exceedances Associated with Revised Assumptions

WESTAR recommends that proven, new technical tools and emissions data should be used when they become available for future analysis involving evaluating and planning air quality management. However, fair and equitable approaches must be sought when addressing increment exceedances associated with revised assumptions and/or techniques.

Description: In situations where peer-reviewed or proven new technical tools or emissions data become available (e.g., new models, revised AP42 emission factors, more accurate meteorological data, emission factors for selected agricultural source types), the new tools or information would be used to conduct all future air quality analyses. In the event that the future

application of the new tools or data significantly change prior increment analyses, consideration needs to be given to the options available to address increment violations in a fair and equitable manner. For example, if a source obtained a permit based on a previous increment model and analysis, it still should be entitled to that permit. However, if a new model or other tool now shows increment violations, the State should take measures to correct the violations. Such measures may require the previously permitted source, as well as other previously permitted sources also contributing to the increment violations, to alter its operations or attendant permit conditions.

WESTAR believes that actions undertaken in response to increment violations established in this manner should reflect the “tiered response process” articulated in Recommendation 9. In this way, permitting authorities and permittees are provided with reasonable certainty that newly modeled violations will not result in rapid and dramatic changes to existing operations. Violations will be addressed through a deliberate planning process that balances the need to resolve the PSD increment issue in a timely manner with the need to provide reasonable time to respond given the environmental and economic consequences of the violation.

Rationale: The workgroup participants expressed an interest to encourage improvements in technology and technical approaches to emissions measurement and modeling, while preventing these improvements from retroactively or unfairly penalizing a particular source.

Recommendation 12: Role of Monitoring in PSD Program Implementation

WESTAR recommends that EPA explicitly acknowledge the roles that ambient monitoring information can play in PSD program implementation.

Description: WESTAR recommends that EPA explicitly acknowledge the use of ambient monitoring information as a legitimate tool in the PSD program implementation toolbox, when used under appropriate conditions. WESTAR does not expect monitoring data to replace the use of modeling activity in the PSD Program. WESTAR believes, however, that a range of opportunities exist for increasing the use of ambient monitoring data to complement the use of air quality models in situations where representative data are available. In many cases, States have been reluctant to use monitoring data in the absence of clear recognition that such data have a legitimate role in increment and AQRV analysis.

WESTAR believes that there are steps that can be taken to increase the use of ambient monitoring data in current PSD program implementation. Ambient monitoring data can be used in certain circumstances to assist with the evaluation of air quality models. In the context of Periodic Review, trends in ambient monitoring data can be used as a tool to support the screening approach discussed in Recommendation 2, helping to indicate whether a cumulative increment modeling analysis may be needed for an area. In situations where an airshed may have a complex mix of sources or other factors affecting increment consumption, permitting authorities can compare model results to ambient monitoring data to better understand model performance, when representative data are available. Ambient monitoring data may also be useful to guide permitting authority selection of appropriate emissions calculation methods for use in preparing PSD emission inventories, as discussed in Recommendation 4. In the context of

AQRV analysis, monitoring data can be useful for assessing the AQRV impacts associated with actual ambient pollutant concentrations. It should be noted that WESTAR does not propose that it is appropriate for ambient monitoring to replace the role of modeling in PSD program implementation. Instead, WESTAR believes ambient monitoring information should be allowed to inform the PSD program decision-making process in a manner similar to how modeling information is used, when used under appropriate conditions.

WESTAR also believes that opportunities exist to expand the use of ambient monitoring data in future PSD program implementation. Several States identified opportunities to more effectively utilize pre-construction and post-construction ambient monitoring requirements imposed as part of major source permitting actions. For example, permitting authorities could systematically adjust monitoring regimes to better align with increment analysis needs and provide long-term ambient air quality data to supplement dispersion modeling. In addition, there is the potential to use temporary ambient monitoring networks to track pollutant concentrations in “problem areas” where increment is close to being fully consumed. This approach could supplement the use of modeling information in informing program decision-making.

WESTAR believes that it is also important to recognize the limitations of ambient monitoring data as well as conditions that can constrain its usefulness. One constraint may be the location of ambient monitoring stations relative to modeling receptors or emissions sources. Additional constraints can be the absence of ambient monitoring data at the baseline date and the inability of ambient monitors to distinguish between impacts on concentrations from baseline source emissions and emissions from increment consuming sources. In addition, WESTAR believes that it is important to consider the effect of meteorology on air pollution concentration levels when interpreting ambient monitoring data. Despite the constraints, WESTAR believes that there are important roles for ambient monitoring data in the increment analysis process.

Rationale: Some workgroup participants expressed a desire to consider conditions under which the use of ambient monitoring data would be appropriate and useful in the context of PSD program implementation. Several state representatives indicated that the use of monitoring data is becoming increasingly important as some areas are nearing full consumption of increment. Some participants acknowledged that the need to base permitting decisions on sound science can make it difficult for permitting authorities to deny permit applications in situations where actual ambient air quality has not been assessed or where ambient monitoring data suggest significantly different air quality status from modeled results.

Recommendation 13: State/FLM Coordination

WESTAR recommends that States and FLMs should recognize the importance of, and work to improve where necessary, communication, coordination, and public notification expectations and procedures associated with PSD permitting activities. Such expectations and procedures are crucial to an effective working relationship between the FLMs and each unique State.

Description: WESTAR recognizes that many States currently have a productive working relationship with FLMs in the context of PSD permitting actions. WESTAR believes, however,

that it is important for individual States and FLMs to explicitly establish expectations and procedures to ensure that AQRV impact reviews and analyses can be effectively accomplished in the context of each State's PSD permitting program. One approach for clarifying expectations and procedures for an effective working relationship is to pursue a Memorandum of Understanding (MOU). Less formal coordination can also be appropriate, provided that there are clear and open channels of communication to prevent and address challenges.

WESTAR believes that the following specific needs are important to consider in the context of permitting authority-FLM coordination.

- Early notification and consultation (e.g., consultation among the State, the FLM, and the permit applicant prior to the formal submittal of an application can help to clarify analysis expectations and expedite permit approval);
- Complete application (e.g., complete application includes complete and adequate air quality and AQRV analyses);
- Timely review (e.g., immediate notification to FLMs upon determining that a permit application is complete; FLM responses within state permitting time frames); and
- Enhanced communication (e.g., FLM to communicate concerns on complete application consistent with regulatory requirements to be addressed by the permitting authority in the public notice process; FLM to provide basis and justifications for adverse impact findings; permitting authorities to provide basis and justifications in response to adverse impact findings).

Rationale: Participants recognized the need to ensure productive participation by FLMs in Class I area permitting processes, including provisions to ensure that important potential AQRV issues get discussed and considered and that all parties have adequate time for quality review and participation. Participants also acknowledged the importance of ensuring that AQRV impact analyses receive fair consideration, while recognizing that States have primacy in making permitting decisions.

The workgroup discussed the potential need to clarify expectations around a "rational basis" for a permitting authority to reject a FLM's finding of adverse AQRV impact. Participants discussed that a State must explain its reasons for disagreeing (e.g., lack of adequate evidence, interpretation of data). Participants also discussed that a potential test is whether the State would be determined to be "arbitrary and capricious" in its decision, by not responding to an FLM analysis, for example.

In discussing this issue, workgroup participants tried to balance the statutory provisions concerning the affirmative responsibility given to the FLM to protect AQRVs and the stipulation that the permitting authority must be satisfied with the FLM's demonstration of adverse impact on AQRVs in any particular situation.

The workgroup also discussed the importance of ensuring that PSD permitting programs have adequate public notice and involvement provisions, consistent with established state air program public participation practices. Some workgroup participants noted the statutory requirements of making available the complete air quality and AQRV analyses at the time of notice of public

hearing, as well as the basis for disagreement with a FLM adverse impact determination, if applicable.

Recommendation 14: Inter-state Consistency and Consultation

In the context of single source permit and Periodic Review inter-jurisdictional emissions impacts, WESTAR encourages States to consult early and often and agree in advance on modeling protocols to enable consistency between the States in performing the analyses and to ensure equity in application of the analysis. WESTAR further recommends EPA take steps to ensure EPA Regions, in partnership with States and FLMs, operate consistently among themselves in inter-jurisdictional contexts and develop data and methods that will better enable inter-jurisdictional analysis.

Description: WESTAR believes a balance is needed between providing States with case-by-case, cross-jurisdictional PSD increment analysis flexibility and providing the national or regional standardization necessary to ensure equity among States, simplify cross-jurisdictional analysis, and facilitate coordination with FLMs. The WESTAR States recognize the occasional need to include facilities from multiple jurisdictions in the Class I area increment consumption analysis and, consistent with the constraints identified in Recommendation 5, Class I AQRV impact analyses.¹⁵ These conditions, at times, can draw multiple EPA Regions into the increment analysis. States therefore must collaborate early to determine and agree on increment consumption approaches, and the affected EPA Regions must engage consistently with the collaborative effort. To this end, WESTAR believes EPA needs to facilitate a balance between providing States with case-by-case, cross-jurisdictional analysis flexibility and providing the national or regional standardization necessary to ensure equity among States, simplify cross-jurisdictional analysis, and facilitate coordination with FLMs.

A number of WESTAR PSD Reform Initiative recommendations will drive more consistency and efficiency into inter-jurisdictional increment consumption and AQRV impact analyses (Recommendations 3 and 4). These recommendations will provide stronger footing to initiate collaborative discussions among States and between States and relevant EPA Regions and FLMs. WESTAR believes, however, that States and EPA Regions may face substantial variability in the conditions affecting inter-jurisdictional increment consumption analyses, driving the need for tailored approaches to accommodate specific circumstances. This need for a case-by-case approach will likely be even more important for evaluating AQRV impacts due to their potentially larger number of sources and geographic area needed to be included in an evaluation.

To support this need, WESTAR recommends working in partnership with EPA to make available current workable collaborative agreement models in the form of, for example, MOU language or model agreements. These models will help States effectively coordinate and can drive more consistency among EPA regions.

¹⁵ The remainder of this recommendation discusses coordination for both increment and AQRV analyses, even as questions remain (consistent with Recommendation 5) regarding the conduct of cumulative AQRV analysis, irrespective of whether there are or are not inter-jurisdictional coordination issues.

EPA also can better support inter-jurisdictional efforts by taking three actions:

- fund high resolution, meteorological data development for the US (particularly in complex terrain areas) to provide States reliable and consistent meteorological data;
- develop a National Emission Inventory (NEI) module to facilitate the use of emissions data for increment consumption (e.g., a module containing emissions and modeling data for use in increment analysis for both short-term and annual emissions, that can be used for both baseline and current actual emissions); and
- support regional modeling centers to coordinate multi-State, Class I increment tracking and cumulative AQRV impact efforts (EPA would need to increase funding for, and expand the charter of, Regional Planning Organizations to accomplish this).

Rationale: Participant discussions indicated an important need for States to coordinate early in any increment consumption and AQRV impact analysis that will involve inter-jurisdictional sources and impacts. Early coordination will help avoid the need to redo analyses and/or avoid an inequitable outcome between adjacent jurisdictions. At the same time, participants recognized that the variable conditions under which inter-jurisdictional coordination will take place limits the development of an effective standard coordination protocol. Participants did indicate that, although early coordination is desirable, the need for coordination may not emerge until initial modeling analysis indicates an inter-jurisdictional impact. Participants concluded that it is important to handle coordination needs on a case-by-case basis supported by available coordination models to enable efficient agreement development among affected parties. Participants expected local and Tribal jurisdictions would operate with similar principles in mind.

Participants also indicated that EPA regions have, at times, participated inconsistently in inter-jurisdictional analyses. The lack of clarity of the role of EPA in these analyses has resulted in confusion, uncertainty, and/or delays in the process. Participants believed EPA should examine its participation in such efforts and develop internal protocols to drive more consistent participation. Participants further observed that, at times, the need for inter-jurisdictional coordination may represent a very different priority for affected parties. For example, one State may view the modeled impact as a low priority relative to its other state air quality needs and available resources. This situation can limit a State's ability/willingness to participate in the effort. In such contexts, federal resources may be needed to attain participation by all parties. However, the converse may also be true in that the "affected State" may be far more concerned about the impact than the State for which the analysis was performed.

With respect to EPA data and analytical methods development support to inter-jurisdictional analysis, participants recognized these as long-term undertakings – they will not help inter-jurisdictional analysis in the short run. Additionally, certain participants indicated that such efforts, although likely helpful to Periodic Review, will probably produce data and tools with insufficient detail to support single source permit increment consumption analysis.